

IN THE CLAIMS:

Please amend claims 1-20 and add new claims 21-23 as follows.

1. (Currently Amended) ~~A mobile hand held terminal, the mobile terminal~~ An apparatus, comprising:

at least one camera directed toward ~~at~~ the user's face and configured to record at least two still image of ~~at~~ the user from at least first and second angles of view and to obtain at least on still image of the user's face;

a memory ~~unit~~ configured to store user profile information relating to authorized users of a system; and

~~a processing unit~~ processor connected to said at least one camera, configured to process the still images obtained by said at least one camera and to generate a 3-dimensional model of the user's face and to generate a facial texture bit map of the user's face using the at least one still image of the user's face, and to compare the generated model and the facial texture bit map with the stored user profile information to determine whether the user is authorized to access ~~a~~ the system, said ~~processing unit~~ processor comprising an access-unit device configured to grant access to the system when the generated model and the facial texture bit map matches the profile information of one of the authorized users stored in the memory ~~unit~~, thereby indicating recognition and authorization of the user, and ~~an updating unit~~ updater configured to update the profile information of the one of the authorized users with the generated model after each grant

of access by said access-~~unit~~ device such that the updated profile information comprises an average of the generated model and the previously stored profile information.

2. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 1, further comprising a light source ~~for projecting to project~~ light at the user's face.

3. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 2, wherein said light source projects structured light onto the user's face to facilitate the generation of the 3-dimensional model.

4. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 1, wherein said at least one camera comprises a digital camera.

5. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 1, wherein said memory-~~unit~~ comprises at least one selected from a group consisting of RAM, ROM, EPROM and a magnetic storage media.

6. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 1, wherein said ~~processing-unit~~ processor comprises a computer, said memory-~~unit~~ being contained within said computer.

7. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 1, wherein said at least one camera is configured to obtain a 2-dimensional still image of the user's face, wherein the obtained 2-dimensional still image of the user's face is used to determine the user's facial texture, the determined facial texture being used in conjunction with the generated 3-dimensional model to determine whether the user is authorized to access the system.

8. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 3, wherein said light source comprises at least one selected from a group consisting of white light, Laser light and infrared light.

9. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 1, wherein said ~~mobile-terminal~~apparatus is a mobile telephone.

10. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 1, wherein said ~~mobile-terminal~~apparatus is operatively configured to transmit the images to a server over a network and to receive a 3-dimensional model and a facial texture bit map from the server.

11. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 1, further comprising ~~determining unit~~ determiner configured to determine an orientation of the

~~mobile terminal~~apparatus to determine an angle between said at least first and second angles of view.

12. (Currently Amended) The ~~mobile terminal~~apparatus of claim 1, wherein said at least one camera comprises first and second cameras, said first camera configured to record at least one still image of the user from at least the first angle of view and said second camera configured to record at least one still image of the user from at least the second angle of view.

13. (Currently Amended) ~~A mobile terminal~~An apparatus for recognizing a user's identity when they are attempting to access a system, comprising:

at least one charged coupled ~~device~~ (CCD) camera configured to obtain at least two still images of a ~~the~~ user's face from at least two different predetermined angles of view and to obtain at least one still image of the user's face;

a ~~memory unit~~ configured to store user profile information relating to authorized users of a system; and

~~processing unit~~a processor configured to connect ~~connect~~ to said at least one ~~CCD~~ charge coupled camera and said light source ~~configured~~ to generate a 3-dimensional model of the user's face using the at least two still images, and to generate a facial texture ~~but~~ bit map of the user's face using the at least one still image, said ~~processing unit~~ processor is configured to compare the 3-dimensional model and the

facial texture bit map to the stored user profile information contained in said memory-unit and ~~to~~ to access ~~to~~ the system when the generated 3-dimensional model and facial texture bit map match a user profile stored in said memory-unit.

14. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 13, further comprising a light source to project structured light on the user's face to obtain said at least two still images of the user's face.

15. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 13, wherein said ~~mobile-terminal~~apparatus is a mobile telephone.

16. (Currently Amended) The ~~mobile-terminal~~apparatus of claim 13, wherein said ~~mobile-terminal~~apparatus is operatively configured to transmit the images to a server over a network and receive a 3-dimensional model and a facial texture bit map from the server.

17. (Currently Amended) A method ~~for recognizing a user using a mobile hand held terminal during an attempt to access the mobile terminal~~, comprising:

obtaining, by ~~the mobile-terminal~~a mobile apparatus, at least two 2-dimensional still images of ~~at~~the user from at least two different angles of view;

sending the images to a server over a network;

generating, by the server, a 3-dimensional model of ~~at~~the user's face from the obtained images;

determining, by the server, the user's facial shape using the generated 3-dimensional model;

sending the 3-dimensional model and the user's facial shape to the ~~mobile terminal~~ mobile apparatus;

comparing, at the ~~mobile terminal~~mobile apparatus, the determined facial shape with profile information stored in memory, the profile information comprising data relating to the facial shape of authorized users; and

determining, at the ~~mobile terminal~~mobile apparatus whether the determined facial shape matches the profile information stored in the memory.

18. (Currently Amended) The method of claim 17, wherein the ~~mobile terminal~~apparatus is a mobile telephone.

19. (Currently Amended) The ~~mobile terminal~~apparatus of claim 1, wherein said at least one camera comprises a charged couple device (CCD) camera.

20. (Currently Amended) ~~A mobile device~~ An apparatus, comprising:

~~a camera~~obtaining means for obtaining at least two still images of ~~the~~ user's face from at least two different predetermined angles of view and to obtain at least one still image of the user's face;

~~memory~~storing means for storing user profile information relating to authorized users of a system; and

~~processing~~generating means connected to said at least one CCD camera and said light source, for generating a 3-dimensional model of the user's face using the at least two still images, and for generating a facial texture ~~but~~ bit map of the user's face using the at least one still image, said ~~processing generating~~ means ~~is configured for~~ comparing the 3-dimensional model and the facial texture bit map to the stored user profile information contained in said ~~memory unit~~ storing means, and for accessing to the system when the generated 3-dimensional model and facial texture bit map match a user profile stored in said ~~memory~~ storing means.

21. (New) An apparatus, comprising:

recording means directed toward the user's face for recording at least two still image of the user from at least first and second angles of view and for recording at least on still image of the user's face;

storing means for storing user profile information relating to authorized users of a system; and

processing means connected to said at least one camera for processing the still images obtained by said at least one camera and for generating a 3-dimensional model of ~~at~~ the user's face and to generate a facial texture bit map of the user's face using the at least one still image of the user's face, and for comparing the generated model and the facial texture bit map with the stored user profile information for determining whether the user is authorized to access the system, said processing means further comprising

access granting means for granting access to the system when the generated model and the facial texture bit map matches the profile information of one of the authorized users stored in the storing means, thereby indicating recognition and authorization of the user, and

updating means for updating the profile information of the one of the authorized users with the generated model after each granting of access by said access granting means such that the updated profile information comprises an average of the generated model and the previously stored profile information.

22. (New) An apparatus, comprising:

at least one camera configured to obtain at least two 2-dimensional still images of a user from at least two different angles of view;

a processor configured to generate a 3-dimensional model of the user's face from the obtained images to determine the user's facial shape using the generated 3-dimensional model, comparing the determined facial shape with profile information

stored in memory, the profile information comprising data relating to the facial shape of authorized users, and determining whether the determined facial shape matches the profile information stored in the memory.

23. (New) An apparatus, comprising:

obtaining means for obtaining at least two 2-dimensional still images of a user from at least two different angles of view;

generating means for generating a 3-dimensional model of the user's face from the obtained images;

shape determining means for determining the user's facial shape using the generated 3-dimensional model;

comparing means for comparing the determined facial shape with profile information stored in memory, the profile information comprising data relating to the facial shape of authorized users; and

match determining means for determining whether the determined facial shape matches the profile information stored in the memory.